

Scaled data based on original data using
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State
Lighting Products

Test Report Prepared for
Cooper Lighting Solutions
(formerly Eaton)

Brand: METALUX

Report Number: P381714

Luminaire Tested: **BMK-50-MCL-UNV-L835-CD-U**

Issue Date: 2/4/2020

This test was performed under the Supervised Manufacturer's Testing Program. The results of this test have not been influenced by sources from within Cooper Lighting Solutions or from external interests.

Test Information

Test Method: LM-79-08
Report Number: P381714
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1908-468-6)
Test Lab: INNOVATIONS CENTER(G2)
Issue Date: 2/4/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: BMK-50-MCL-UNV-L835-CD-U
Description: BENCHMARK HIGHBAY LED FIXTURE WITH MEDIUM CLEAR LENS

Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 49210.3 lumens
Efficiency: N/A
Efficacy: 148.0 lumens/watt
Spacing Criteria (0/90/45): 1.41 / 1.41 / 1.39
Luminous Opening: Vertical Cylinder (Dia: 1.33' x H: 0.12')
CIE Type: Direct

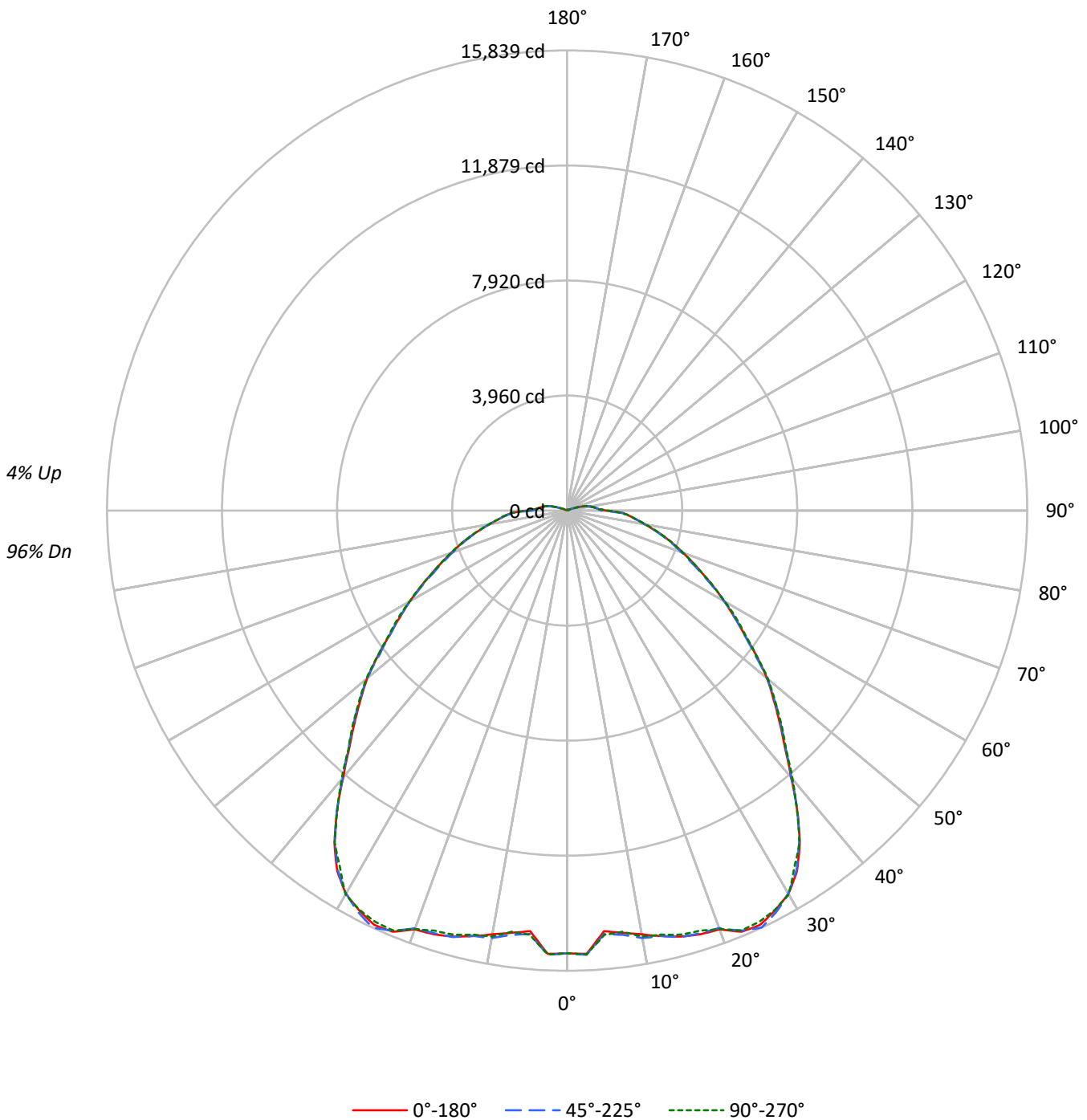
Input Watts (W): 332.5
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				20	
RC	80				70				50				30				10	0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR																		
0	118	118	118	118	115	115	115	115	109	109	109	104	104	104	99	99	99	96
1	107	102	97	93	104	99	95	91	94	90	87	89	87	84	85	83	81	78
2	97	88	81	75	94	86	80	74	82	77	72	78	74	70	75	71	68	65
3	89	78	69	63	86	76	68	62	72	66	60	69	63	59	66	61	57	55
4	81	69	60	53	79	67	59	53	64	57	52	62	55	50	59	54	49	47
5	75	62	53	46	72	60	52	45	58	50	45	55	49	44	53	48	43	41
6	69	56	47	40	67	54	46	40	52	45	39	50	44	38	48	42	38	36
7	64	50	42	35	62	49	41	35	48	40	35	46	39	34	44	38	34	32
8	60	46	37	32	58	45	37	31	43	36	31	42	35	31	41	35	30	28
9	56	42	34	28	54	41	34	28	40	33	28	39	32	28	37	32	27	25
10	52	39	31	26	51	38	31	26	37	30	25	36	29	25	35	29	25	23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	117513	117513	117513
5°	111327	112087	112335
10°	113611	114597	114185
15°	117440	117589	116915
20°	120643	120317	120547
25°	126823	127689	125942
30°	126891	126832	127152
35°	121328	121028	121205
40°	109739	109888	110527
45°	100830	101323	101649
50°	94346	94506	94888
55°	85695	85427	86090
60°	79881	79804	80127
65°	74793	73852	74851
70°	71966	71054	72087
75°	71418	70436	71354
80°	71610	71825	72736
85°	80989	80648	82089



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	1413.2	2.9
10°-20°	4294.9	8.7
20°-30°	7200.8	14.6
30°-40°	8636.7	17.6
40°-50°	8050.4	16.4
50°-60°	6714.7	13.6
60°-70°	5101.3	10.4
70°-80°	3638.8	7.4
80°-90°	2305.7	4.7
90°-100°	1107.5	2.3
100°-110°	576.6	1.2
110°-120°	78.2	0.2
120°-130°	23.3	0.0
130°-140°	25.9	0.1
140°-150°	21.7	0.0
150°-160°	11.7	0.0
160°-170°	6.7	0.0
170°-180°	2.2	0.0
0°-30°	12908.9	26.2
0°-40°	21545.6	43.8
0°-60°	36310.7	73.8
0°-90°	47356.5	96.2
90°-120°	1762.2	3.6
90°-150°	1833.3	3.7
90°-180°	1854.0	3.8
0°-180°	49210.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	15236	15236	15236	15236	15236	
5°	14529	14592	14628	14638	14661	###
15°	15178	15137	15197	15231	15110	4298
25°	15732	15764	15839	15724	15623	7197
35°	13963	13924	13928	13973	13949	8647
45°	10348	10375	10398	10410	10432	8019
55°	7459	7440	7436	7417	7494	6730
65°	5148	5058	5083	5092	5152	5138
75°	3464	3439	3417	3425	3461	3654
85°	2164	2164	2155	2146	2194	1879
90°	1338	1286	1178	1272	1359	782
95°	981	1020	1022	991	985	773
105°	555	561	556	551	562	580
115°	45	48	49	47	48	77
125°	26	26	25	26	27	23
135°	33	33	33	33	34	26
145°	36	35	35	35	34	22
155°	24	24	23	23	24	12
165°	24	23	23	23	23	7
175°	22	23	22	23	24	2
180°	23	23	23	23	23	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	15235.8	15235.8	15235.8	15235.8	15235.8
2.5°	15273.3	15233.8	15305.7	15331.0	15291.5
5°	14529.0	14591.7	14628.2	14638.3	14660.6
7.5°	14655.5	14591.7	14726.4	14726.4	14622.1
10°	14811.5	14959.3	14940.1	14915.8	14886.4
12.5°	15002.9	14996.8	14994.8	14973.5	14949.2
15°	15178.1	15136.6	15197.3	15230.7	15110.2
17.5°	15289.5	15173.0	15254.0	15310.7	15163.9
20°	15337.1	15216.6	15295.6	15390.7	15324.9
22.5°	15693.5	15617.6	15649.0	15719.9	15645.9
25°	15732.0	15764.4	15839.4	15723.9	15622.7
27.5°	15509.2	15555.8	15585.2	15569.0	15490.0
30°	15229.7	15218.6	15222.6	15279.4	15261.1
32.5°	14725.4	14661.6	14684.9	14621.1	14555.3
35°	13962.9	13924.4	13928.4	13973.0	13948.7
37.5°	13015.0	12956.3	13019.0	13051.5	12996.8
40°	11991.2	12078.3	12007.4	12030.7	12077.3
42.5°	11105.1	11184.1	11147.6	11180.0	11142.5
45°	10347.6	10374.9	10398.2	10410.4	10431.6
47.5°	9643.8	9673.1	9691.4	9704.5	9705.5
50°	8981.5	8970.3	8996.7	8928.8	9033.1
52.5°	8210.8	8137.9	8134.9	8112.6	8230.1
55°	7459.4	7440.2	7436.1	7416.9	7493.8
57.5°	6824.5	6826.5	6836.6	6842.7	6907.5
60°	6249.3	6195.6	6243.2	6229.0	6268.5
62.5°	5688.2	5624.4	5647.7	5646.7	5699.4
65°	5147.5	5058.3	5082.7	5091.8	5151.5
67.5°	4677.6	4630.0	4602.6	4641.1	4684.7
70°	4238.1	4205.7	4184.4	4209.7	4245.2
72.5°	3840.1	3794.5	3795.5	3790.5	3853.3
75°	3464.4	3439.1	3416.8	3424.9	3461.3
77.5°	3062.4	3094.8	3051.2	3067.4	3083.6
80°	2703.9	2740.3	2712.0	2708.9	2746.4
82.5°	2420.3	2423.3	2422.3	2405.1	2417.3
85°	2164.1	2164.1	2155.0	2145.9	2193.5
87.5°	1928.1	1878.5	1868.4	1875.5	1903.8
90°	1337.8	1286.1	1177.7	1271.9	1359.0
92.5°	1101.8	1121.0	1092.7	1092.7	1104.8
95°	981.3	1019.8	1021.8	991.4	985.3
97.5°	902.3	926.6	917.5	901.3	910.4
100°	806.1	814.2	806.1	800.0	803.1
102.5°	719.0	718.0	713.9	706.9	726.1
105°	554.9	561.0	556.0	550.9	562.0
107.5°	388.9	383.8	375.7	376.7	381.8
110°	236.0	237.0	222.8	226.8	241.0



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	107.3	113.4	117.5	111.4	114.4
115°	44.6	47.6	48.6	46.6	47.6
117.5°	23.3	23.3	22.3	23.3	25.3
120°	21.3	22.3	20.3	21.3	23.3
122.5°	23.3	24.3	23.3	24.3	25.3
125°	26.3	26.3	25.3	26.3	27.3
127.5°	28.4	28.4	27.3	28.4	29.4
130°	29.4	30.4	30.4	30.4	30.4
132.5°	31.4	32.4	31.4	32.4	32.4
135°	33.4	33.4	33.4	33.4	34.4
137.5°	35.4	35.4	35.4	35.4	35.4
140°	36.5	36.5	36.5	36.5	36.5
142.5°	37.5	36.5	36.5	36.5	35.4
145°	36.5	35.4	35.4	35.4	34.4
147.5°	33.4	33.4	32.4	33.4	32.4
150°	30.4	29.4	29.4	29.4	29.4
152.5°	26.3	26.3	25.3	26.3	26.3
155°	24.3	24.3	23.3	23.3	24.3
157.5°	24.3	24.3	23.3	23.3	24.3
160°	24.3	24.3	23.3	23.3	23.3
162.5°	24.3	24.3	23.3	23.3	23.3
165°	24.3	23.3	23.3	23.3	23.3
167.5°	24.3	23.3	23.3	23.3	23.3
170°	24.3	23.3	23.3	23.3	23.3
172.5°	23.3	23.3	23.3	23.3	23.3
175°	22.3	23.3	22.3	23.3	24.3
177.5°	22.3	22.3	22.3	23.3	24.3
180°	23.3	23.3	23.3	23.3	23.3

(END OF REPORT)